

**What is claimed is:**

1           1.    A method for dynamically partitioning a memory of  
2   a recording medium, wherein the memory has a first and  
3   second block which at least a optimal recording power record  
4   for a first type of recording disk and at least a optimal  
5   recording power record for a second type of recording disk  
6   are stored respectively, the method comprising:

7           predetermining a ratio of memory spaces of the first  
8                    and second block; and

9           selecting a method from a first and a second  
10           partitioning method to determine the ratio of  
11           memory spaces of the first and second blocks when  
12           the ratio is not predetermined.

1           2.    The method as claimed in claim 1, wherein the  
2   first type of recording disk is CD-R and the second type of  
3   recording disk is CD-RW.

4           3.    The method as claimed in claim 1, wherein the  
5   first partitioning method comprises step of determining the  
6   ratio of memory spaces of the first and second blocks  
7   according to a first predetermined value when a difference  
8   between the number of the optimal recording power records  
9   for the first type of recording disk and the optimal  
10   recording power records for the second type of recording  
11   disk reaches the first predetermined value.

1           4.    The method as claimed in claim 1, wherein the  
2   second partitioning method comprises step of determining the  
3   ratio of memory spaces of the first and second blocks

4 according to a ratio of the optimal recording power records  
5 for the first type of recording disk to the optimal  
6 recording power records for the second type of recording  
7 disk when a total of the optimal recording power records  
8 reaches a second predetermined value.

1 5. The method as claimed in claim 5, wherein the  
2 first and second predetermined value are smaller than a  
3 maximum number of records stored in the memory.

1 6. The method as claimed in claim 6, wherein the  
2 first partitioning method further comprises step of setting  
3 the maximum number of the optimal recording power records in  
4 the first or in the second block equal to the maximum  
5 number of records stored in the memory.

1 7. The method as claimed in claim 1, wherein the  
2 memory is an EEPROM.

1 8. The method as claimed in claim 1, wherein the  
2 ratio of memory spaces of the first block to the second  
3 block are predetermined by user input or firmware in the  
4 recording medium.

1 9. The method as claimed in claim 1, wherein the  
2 recording medium is allowed to switch between the first and  
3 second partitioning methods.

1 10. The method as claimed in claim 1, wherein the  
2 optimal recording power records for the first type of  
3 recording disk are sequentially written into the first block  
4 from a low to a high memory address.

5        11. The method as claimed in claim 10, wherein the  
6        optimal recording power records for the second type of  
7        recording disk are sequentially written into the second  
8        block from a high to a low memory address.

9        12. The method as claimed in claim 11, wherein the low  
10       memory address of the second block is higher than the high  
11       memory address of the first block.

12       13. The method as claimed in claim 11, wherein the low  
13       memory address of the first block is higher than the high  
14       memory address of the second block.

15       14. The method as claimed in claim 1, wherein the  
16       optimal recording power records for the first type of  
17       recording disk are sequentially written into the first block  
18       from a high to a low memory address.

19       15. The method as claimed in claim 14, wherein the  
20       optimal recording power records for the second type of  
21       recording disk are sequentially written into the second  
22       block from a low to a high memory address.

1        16. The method as claimed in claim 15, wherein the low  
2        memory address of the second block is higher than the high  
3        memory address of the first block.

1        17. The method as claimed in claim 15, wherein the low  
2        memory address of the first block is higher than the high  
3        memory address of the second block.

1        18. The method as claimed in claim 1, wherein the  
2        recording medium stores the optimal recording power records

3 for the first type of recording disk into the first block  
4 before writing data to the first type of recording disk and  
5 the optimal recording power records into the second block  
6 before writing data to the second type of recording disk.

1 19. The method as claimed in claim 1, wherein the  
2 Recording medium stores the first recording power  
3 consumption records corresponding to different types into  
4 the first block sequentially from the low memory address and  
5 stores the second recording power consumption records  
6 corresponding to different types into the second block  
7 sequentially from the high memory address.